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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,350	09/24/2003	Franco Leonardi	81044331/202-0081	2349
28395	7590	07/19/2006	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			VANAMAN, FRANK BENNETT	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/605,350

Applicant(s)

LEONARDI ET AL.

Examiner

Frank Vanaman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-25 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 26 is/are rejected.
- 7) ☐ Claim(s) 6-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **Status of Application**

1. Applicant's amendment, filed May 8, 2006 has been entered in the application. Claims 1-10 and 21-26 are pending; claims 11-20 have been canceled.

### **Claim Objections**

2. Claims 21-23 as added, duplicate the subject matter of claims 6-8. One set of these claims should be deleted. Appropriate correction is required.

### **Claim Rejections - 35 USC § 103**

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-5 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konno et al. (US 6,450,274). Konno et al. teach a method for operating a vehicle which has a first bus for powering accessory loads (11) and having a battery (10) connected thereto; and a second bus for powering an electric motor traction device (4) having an accumulator connected thereto (5), wherein the two busses are connected by a regulating device (9) in the form of a DC/DC converter, which regulates the voltage of the first bus (between 9 and 11) to a predetermined voltage level (col. 2, lines 37-39) under a number of operating conditions including an electric motor assist mode (S15), a startup energy management mode (S2, S3), a running energy management mode (S9, S16).

The reference to Konno et al. fails to teach the accumulator as being an ultracapacitor. In view of the transient nature of power demand in a motor assisted hybrid vehicle, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the accumulator with an ultracapacitor for the purpose of more efficiently accommodating transient power demands in the vehicle electrical system.

The reference to Konno et al. fails to teach the regulation of the first bus concurrently with the use of the motor for assist drive. It is very old and well known in the electric control arts to provide a regulating device continuously active even under non-loaded conditions for the purpose of reducing the cycling from active to inactive

states and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to maintain the regulation of the first bus continuously for the purpose of continuously maintaining regulation of the first bus to prevent over- or under-voltage conditions, and to reduce cycling of the regulator.

As particularly regards claim 5, while the reference to Konno et al. fails to explicitly teach the control of the DC/DC converter as preventing flow from the second to first busses while in an electrical motor assist mode, however it would have been obvious to one of ordinary skill in the art at the time of the invention to facilitate all flow of energy in the bus supplying the power drive unit (particularly in that the accessory bus is provided with its own source of low voltage power), so as to prevent robbing from the power drive unit when it is in use.

5. Claims 1-5 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pels et al. (US 6,543,561). Pels et al. teach a method for operating a vehicle which has a first bus for powering accessory loads (11) and having a battery (12) connected thereto; and a second bus for powering an electric motor traction device (6) having capacitor connected thereto (10) through a DC/AC converter (9a), wherein the two busses are connected by a regulating device (9c) in the form of a DC/DC converter, which regulates the voltage of the first bus (connected to 11, 12) to a predetermined voltage level (col. 6, lines 21-23) under a number of operating conditions including an electric motor assist mode (col. 6, lines 23-25), a startup energy management mode (col. 6, lines 44-47), a running energy management mode (col. 7, lines 24-27).

The reference to Pels et al. fails to teach the capacitor as being an ultracapacitor. In view of the transient nature of power demand in a motor assisted hybrid vehicle, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the capacitor with an ultracapacitor for the purpose of more efficiently accommodating transient power demands in the vehicle electrical system.

The reference to Pels et al. fails to teach the regulation of the first bus concurrently with the use of the motor for assist drive. It is very old and well known in the electric control arts to provide a regulating device continuously active even under non-loaded conditions for the purpose of reducing the cycling from active to inactive

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states and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to maintain the regulation of the first bus continuously for the purpose of continuously maintaining regulation of the first bus to prevent over- or under-voltage conditions, and to reduce cycling of the regulator.

As particularly regards claim 5, while the reference to Pels et al. fails to explicitly teach the control of the DC/DC converter as preventing flow from the second to first busses while in an electrical motor assist mode, however it would have been obvious to one of ordinary skill in the art at the time of the invention to facilitate all flow of energy in the bus supplying the power drive unit (particularly in that the accessory bus is provided with its own source of low voltage power), so as to prevent robbing from the power drive unit when it is in use.

#### **Allowable Subject Matter**

6. Claims 6-10 are objected to as being dependent from rejected base claims, but would be allowable if rewritten in independent form to include all intervening limitations.
7. Claims 21-25 are allowed; claims 21-23 are duplicates, respectively, of claims 6-8; duplicate allowable claims may not be passed to issue.

#### **Response to Comments**

8. Applicant's comments have been carefully considered. The examiner notes that applicant has asserted that previous claims 1-10 were rejected both by Konno et al. and Pels et al. (see the headings in the arguments filed with the amendment). This is not correct. An accurate summary of the claim rejections may be found in the previous office action, wherein previously pending claims 1-5 were rejected as being unpatentable over the prior art.

With respect to both the references to Konno et al. and Pels et al., applicant has argued that these references both lack a clear and explicit teaching of concurrent regulation of a first bus concurrently with the supply of electric energy to an assist motor. The examiner agrees, and appreciates applicant's pointing-out of the distinction. The examiner notes that it would, however, be deemed obvious to maintain the regulation of

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the respective first bus portions of both references' systems for the purpose of preventing damage to equipment associated with over-voltage or under-voltage conditions. Applicant may additionally desire to consider that regulation of a bus is not inherently coupled with the charging of a device on the bus, and additionally the examiner notes (and of this applicant is undoubtedly aware) that regulation devices associated with even very common power supplies are continuously active if the power supply is running, even when no load is being drawn from the supply.

In response to applicant's argument that the references must explicitly provide a suggestion for combining, a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)), with skill being presumed on the part of the artisan, rather than the lack thereof (see *In re Sovish* 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985)); further, references may be combined although none of them explicitly suggests combining one with the other (see *In re Nilssen* 7 USPQ2d 1500 (Fed. Cir. 1989)). It has long been the law that the motivation to combine need not be found in prior art references, but equally can be found "in the knowledge generally available to one of ordinary skill in the art." *In re Jones*, 958 F.2d 347, 351 (Fed. Cir. 1992) (citing *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988)).

The motivation to combine can be found either in a prior art reference, or it can be implicit in the knowledge of one of ordinary skill in the art. See *In re Huston*, 308 F.3d 1267, 1280 (Fed. Cir. 2002); *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472 (Fed. Cir. 1997).

Sources suggesting a combination may be: (1) the combined teachings of the prior art, (2) the knowledge of the ordinary practitioner and (3) the nature of the problem to be solved. "The test for implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000).

In *Richard Ruiz and Foundation Anchoring Systems, Inc. v. A.B. Chance Company*, No. 03-1333 (Fed. Cir. January 29, 2004), the court emphasized that an "express written teaching in the art" to combine references was not required [emphasis added]. Rather, motivation may come from "the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem."

Please further note the following from Section 2144 of the MPEP: "The rationale to modify or combine the prior art does not have to be expressly stated in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent...The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem...It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by Applicant." Also Chief Judge Nies writes in a concurring opinion, "While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or the prior art specifically suggest making the combination...In sum, it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found in a specific reference". See *In re Oetiker* 977 F.2d 1443, 24 USPQ.2d 1443 (Fed.Cir.1992).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

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### Conclusion

9. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

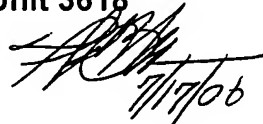
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Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450,

Or faxed to:

PTO Central Fax: 571-273-8300

**F. VANAMAN**  
**Primary Examiner**  
**Art Unit 3618**

Handwritten signature of F. Vanaman, dated 7/17/06.